

CLAIMS

1. A liquid crystal shutter comprising:
a first and a second transparent substrates arranged to
5 face each other;
a light shielding film formed on a surface of the second
transparent substrate facing the first transparent substrate
for restricting incidence of light travelling from the first
transparent substrate to the second transparent substrate; and
10 a transparent electrode laminated over the light
shielding film via a single insulating layer.
2. The liquid crystal shutter according to claim 1, wherein
the insulating layer is made of an inorganic oxide.
- 15 3. The liquid crystal shutter according to claim 2, wherein
the inorganic oxide is SiO_2 or Ta_2O_5 .
4. The liquid crystal shutter according to claim 1, wherein
20 the insulating layer has a thickness of no more than 2000 Å.
5. The liquid crystal shutter according to claim 1, wherein
the insulating layer is made by a method selected from the group
consisting of dip coating, bias sputtering and plasma CVD.
- 25 6. The liquid crystal shutter according to claim 1, wherein
the light shielding film is made of a metal.

7. The liquid crystal shutter according to claim 1, wherein the light shielding film has an obverse surface made of chromium oxide.
- 5 8. The liquid crystal shutter according to claim 1, wherein the light shielding film is formed with an opening for selectively allowing incidence of light passing through the first transparent substrate onto the second transparent substrate; and
- 10 wherein the opening has a tapered edge.
9. The liquid crystal shutter according to claim 8, wherein the light shielding film has a thickness of no more than 3000 Å.
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10. A liquid crystal shutter comprising:
- a first and a second transparent substrates arranged to face each other;
- a light shielding film formed on a surface of the second
- 20 transparent substrate facing the first transparent substrate for restricting incidence of light travelling from the first transparent substrate to the second transparent substrate; and
- a transparent electrode laminated over the light shielding film via a single insulating layer;
- 25 wherein each of the transparent electrode, the light shielding film and the insulating layer is made of an inorganic substance.

11. The liquid crystal shutter according to claim 10, wherein the insulating layer is made of an inorganic oxide.
12. The liquid crystal shutter according to claim 11, wherein
5 the inorganic oxide is SiO_2 or Ta_2O_5 .
13. The liquid crystal shutter according to claim 10, wherein the insulating layer has a thickness of no more than 2000 Å.
- 10 14. The liquid crystal shutter according to claim 10, wherein the insulating layer is made by a method selected from the group consisting of dip coating, bias sputtering and plasma CVD.
15. The liquid crystal shutter according to claim 10, wherein
15 the light shielding film is made of a metal.
16. The liquid crystal shutter according to claim 10, wherein the light shielding film has an obverse surface made of chromium oxide.
- 20 17. The liquid crystal shutter according to claim 10, wherein the light shielding film is formed with an opening for selectively allowing incidence of light passing through the first transparent substrate onto the second transparent
25 substrate; and
- wherein the opening has a tapered edge.

18. The liquid crystal shutter according to claim 17, wherein the light shielding film has a thickness of no more than 3000 Å.

5 19. A printhead provided with a liquid crystal shutter, the printhead comprising:

a first and a second transparent substrates arranged to face each other;

a light shielding film formed on a surface of the second transparent substrate facing the first transparent substrate for restricting incidence of light travelling from the first transparent substrate to the second transparent substrate; and

a transparent electrode laminated over the light shielding film via a single insulating layer.

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20. The printhead according to claim 19, further comprising an illuminator capable of individually emitting red light, green light and blue light.

20 21. A printhead provided with a liquid crystal shutter, the liquid crystal shutter comprising:

a first and a second transparent substrates arranged to face each other;

a light shielding film formed on a surface of the second transparent substrate facing the first transparent substrate for restricting incidence of light travelling from the first transparent substrate to the second transparent substrate; and

a transparent electrode laminated over the light shielding film via an insulating layer;

wherein each of the transparent electrode, the light shielding film and the insulating layer is made of an inorganic
5 substance.

22. The printhead according to claim 21, further comprising an illuminator capable of individually emitting red light, green light and blue light.